GIS NEWSLETTER

Geographic Information Systems

GIS – **THE** TOOL FOR TRANSPORTATION PLANNING

If you're a transportation planner you need to take a look at the benefits that the GIS tool has to offer. From policy planning to the assembly of route development plans, GIS can assist you in developing a comprehensive solution to your transportation problems. The tool allows you to develop "what if" scenarios and visual displays of complex data relationships on the fly or on a more formal basis. Long term detailed problems can often be solved in very short time frames when compared to using more traditional methods of crunching through data and drawing maps by hand.

Whatever your need, GIS can solve many of your transportation problems in a short time frame.

What GIS Can Do For You

- The best methodology for communicating the meaning of spatial data
- Virtually eliminates the need to trudge through large spreadsheets and data base information
- Displays your data quickly in picture format
- Communicate the meaning of complex data efficiently
- A picture is worth a thousand words (conservative statement – more like at least a million words)
- On the fly legend editing in GIS displays network effects in real time
- GIS is an excellent tool for developing performance measures
- Zoom in or out to the level of detail that your project requires
- **TRY IT – YOU'LL LIKE IT**

Many Overlays Currently Available

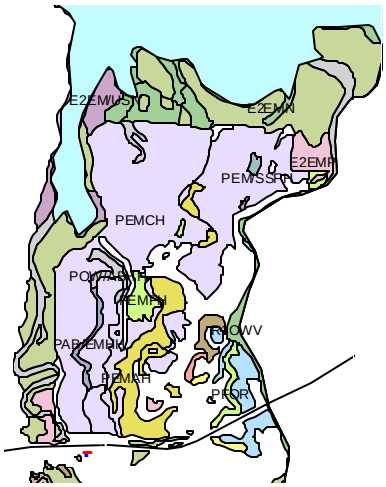
- Great data overlays available on WSDOT GIS servers: urban areas, city limits, census data, wetlands, endangered species, hydrology, fish passages, land use, zoning, local roadways, railroads, aerial photographs, and much, much more.
- See the following site for some overlays currently available at www.wsdot.wa.gov/gis/GeoDataCatalog/default.htm
- New overlays coming on line frequently
- Frequent data updates reduces errors
- Create custom overlays from your data files specific to your mapping needs
- Use the GIS Environmental Workbench to locate known sensitive environmental sites near your projects
- Compatible with GPS applications for mapping field data and site locations
- Selected overlays accurate to within 4 feet
- Use GIS and portable laptops to find features in the field
- Use GIS, Laptops, and GPS to create your own maps and record the location of field features in GIS ready format

Census Geography Now Becoming Available

- GIS can plot and display population components, in many cases, down to the census block and in nearly every instance, down to the census tract.
- GIS tools combined with census data can be a big help in analyzing environmental justice and other social, demographic, or economic issues

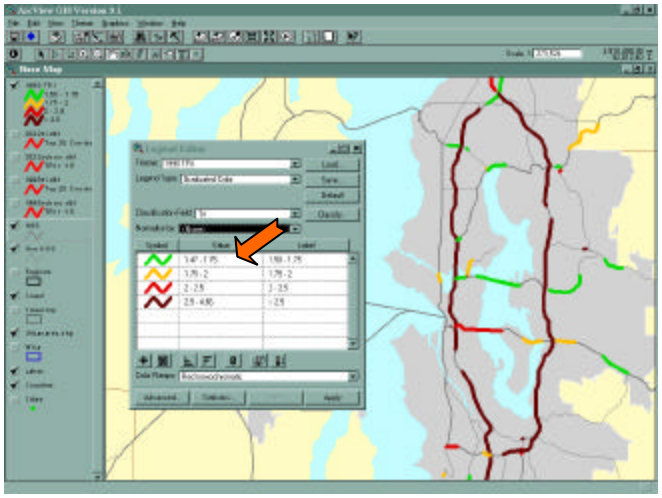
Some Examples Of GIS Applications in Transportation Planning

Wetlands

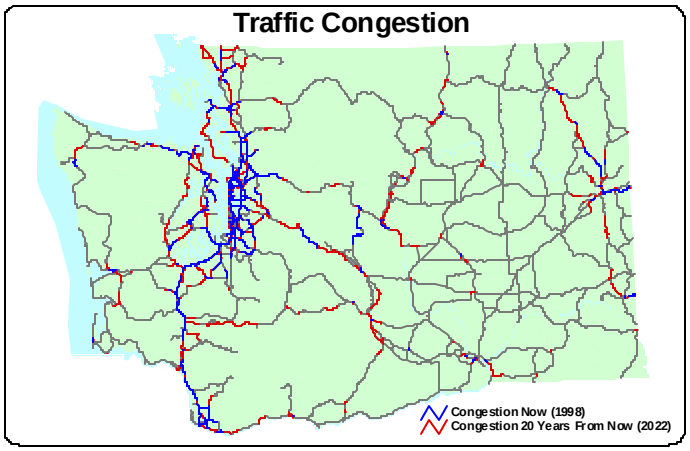


The wetland map on the left is an example of one of the standard overlays available on the GIS server for use in developing informational maps targeted for planning studies or route development documents. These overlays provide significant insight to problems that may arise during the course of PS&E or construction of individual projects. This information can be used to improve cost estimates as well as the best potential routing of transportation projects.

A simple methodology for real time editing of thresholds in GIS can be accomplished in the legend editor (shown right). By modifying values in the middle column (see orange arrow) of the editor, you can change each of the thresholds in the legend. Then, by clicking on the "apply" box in the lower right hand corner the map will redisplay and update based on the parameters that you have changed. This is a great tool to use during meetings for developing consensus on complex issues related to transportation planning. This technique allows one to view and test the reality of policy decisions on the transportation network. Complex decisions can be made much faster employing GIS as a visual aid tool.



Traffic Congestion



The congestion map on the left was created using the legend process described above. Thresholds were set to match the national average of the Travel Rate Index (TTI). Therefore the map displays the roadways that will be congested (above the national TRI average of 1.3) for the years 1998 and 2022.

This process can be used to display any number of threshold parameters for which data is available.